

# Notice of Allowability

Application No.

09/235,319

Examiner

Walter F. Briney III

Applicant(s)

UBOWSKI ET AL.

Art Unit

2646

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 07 November 2005.
2. ☒ The allowed claim(s) is/are 2-14, 16-21, 23, 24 and 29-43.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

It is submitted that the changes to claims 3, 5, 7 are merely made to correct status identifiers.

It is submitted that the changes to claims 2, 4, 6, 8, 9, 11, 13, 14 and 16-21 are merely made to clarify—by underlining, bracketing and strike-through—the changes made from the previous claim listing filed 08 August 2005 to the current claim listing filed 07 November 2005. As such, this Examiner's Amendment does not affect the scope of the claims as filed on 07 November 2005.

The application has been amended as follows:

2. (currently amended) The echo canceler according to claim ~~[[1]]~~10, wherein:

said control register is adapted to configure a span length of said ~~digital~~ echo canceler module.

3. (previously presented) The echo canceler according to claim 2, wherein:

said span length is adapted to be operably reconfigurable.

4. (currently amended) The echo canceler according to claim ~~[[1]]~~10, wherein:

said control register is adapted to configure a step size relating to adaptation of said ~~digital~~ echo canceler module.

5. (previously presented) The echo canceler according to claim 4, wherein:

said step size is adapted to be operably reconfigurable.

6. (currently amended) The echo canceler according to claim ~~[[1]]~~10, wherein:

said control register is adapted to configure an ability to update tap information relating to said ~~digital~~ echo canceler module.

7. (previously presented) The echo canceler according to claim 6, wherein:

said ability to update tap information is adapted to be operably reconfigurable.

8. (currently amended) The echo canceler according to claim ~~[[1]]~~10, wherein:

said control register is adapted to select one of a plurality of possible adaptation modes of said ~~digital~~ echo canceler module.

9. (currently amended) The echo canceler according to claim 8, wherein:

said selection between the plurality of possible adaptation modes is operably reconfigurable.

11. (currently amended) The echo canceler according to claim 10, wherein;

said selection between sub-band center clipping and full-band center clipping is operably reconfigurable.

13. (currently amended) The echo canceler according to claim 12, wherein:

said selection between sub-band echo cancellation and full-band echo cancellation is operably reconfigurable.

14. (currently amended) The echo canceler according to claim ~~[[1]]~~10, wherein:

said ~~digital~~ echo canceler module is adapted to configurably receive an input signal from two of:

- a microphone,
- a telephone line in, and
- handset in.

16. (currently amended) The method according to claim ~~[[15]]~~20, ~~further comprising~~ wherein said configuring comprises:

changing a span length of said ~~digital~~ echo canceler module.

17. (currently amended) The method according to claim ~~[[15]]~~20, ~~further comprising~~ wherein said configuring comprises:

changing an adaptation speed of said ~~digital~~ echo canceler module.

18. (currently amended) ~~The method of configuring a digital echo canceler module as either a digital acoustic echo canceler or as a digital hybrid echo canceler according to claim [[15]]20, wherein said [[re]]configuring comprises:~~

changing an enablement status of a tap update ability of said digital echo canceler module.

19. (currently amended) ~~The method of configuring a digital echo canceler module as either a digital acoustic echo canceler or as a digital hybrid echo canceler according to claim [[15]]20, wherein said [[re]]configuring comprises:~~

changing an adaptation mode of said digital echo canceler module.

20. (previously presented) A method of configuring an echo canceler module as either an acoustic echo canceler or as a hybrid echo canceler, said method comprising:

configuring said echo canceler module as one of [[an]]said acoustic echo canceler and [[a]]said hybrid echo canceler, said configuring comprises selecting between sub-band center clipping or full-band center clipping with respect to said echo canceler module;

operating said echo canceler module as said acoustic echo canceler if said echo canceler module is utilized in a first wireless device; and

operating said echo canceler module as said hybrid echo canceller if said echo canceler module is utilized in a second wireless device;

wherein said echo canceler module is configurable to operate through a common physical connection as said acoustic echo canceler in said first wireless device and as said hybrid echo canceler in said second wireless device.

21. (previously presented) A method of configuring an echo canceller module as either an acoustic echo canceler or as a hybrid echo canceler, said method comprising:

configuring said echo canceler module as one of an said acoustic echo canceler and a said hybrid echo canceler, said configuring comprising selecting between sub-band echo cancellation or full-band echo cancellation with respect to said echo canceler module;

operating said echo canceler module as said acoustic echo canceler if said echo canceler module is utilized in a first wireless device; and

operating said echo canceler module as said hybrid echo canceller if said echo canceler module is utilized in a second wireless device;

wherein said echo canceler module is configurable to operate through a common physical connection as said acoustic echo canceler in said first wireless device and as said hybrid echo canceler in said second wireless device.

23. (currently amended) The echo canceler according to claim 10, wherein;

said first wireless device is a handset of a digital cordless telephone.

24. (currently amended) The echo canceler according to claim 10, wherein;

said second wireless device is a base unit of a digital cordless telephone.

***Allowable Subject Matter***

The following is an examiner's statement of reasons for allowance:

1. **Claims 2-14, 16-21, 23, 24 and 29-43 are allowed.**

**Claim 10** is limited to *an echo canceller* and has been previously indicated as containing allowable subject matter as set forth in the outstanding Final Rejection filed 07 September 2005.

**Claims 2-9, 11, 14, 23 and 24** depend on claim 10, and are allowable over the cited prior art for at least the same reasons.

**Claim 12** is limited to *an echo canceller* and was objected to in the outstanding Final Rejection as containing allowable matter but having dependency on a rejected base claim. As this claim has been rewritten in independent form including all limitations of its former parent claim it is allowable over the cited prior art.

**Claims 13 and 29-39** depend on claim 12, and are allowable over the cited prior art for at least the same reasons.

**Claim 20** is limited to *a method of configuring an echo canceller module as either an acoustic echo canceller or as a hybrid echo canceller* and has been previously indicated as containing allowable subject matter as set forth in the outstanding Final Rejection filed 07 September 2005.

**Claims 16, 17 and 19** depend on claim 20, and are allowable over the cited prior art for at least the same reasons.

**Claim 21** is limited to *a method of configuring an echo canceller module as either an acoustic echo canceller or as a hybrid echo canceller* and has been previously indicated as containing allowable subject matter as set forth in the outstanding Final Rejection filed 07 September 2005.

**Claims 40-43** depend on claim 21, and are allowable over the cited prior art for at least the same reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F. Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB  
11/23/05



**SINH TRAN**  
**SUPERVISORY PATENT EXAMINER**